



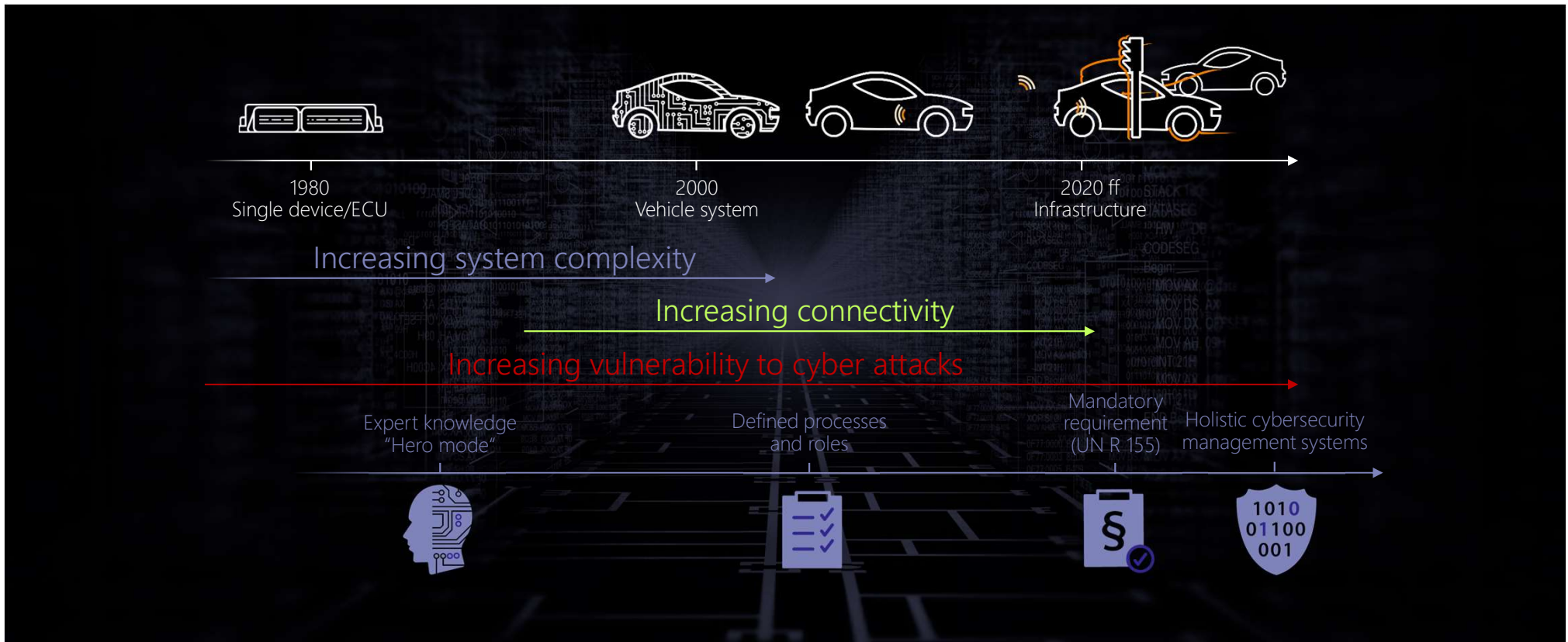
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Global Standards, Regulations and Best Practices in the Vehicle Cyber Security Landscape

escrypt
SECURITY. TRUST. SUCCESS.

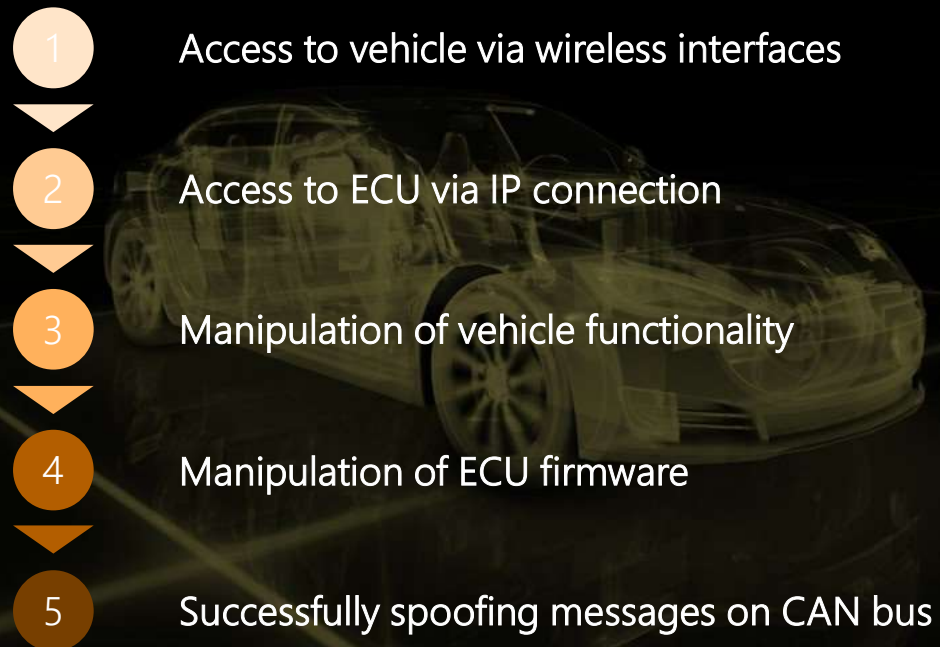
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Cybersecurity from better practice to mandatory requirement



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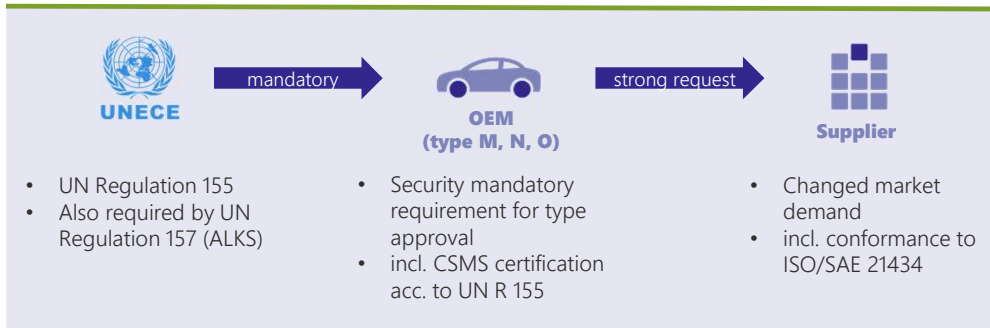
Case study: Remote attack on Jeep Cherokee (2015)



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Impact of UN R 155 & ISO/SAE 21434

Cybersecurity becomes mandatory



Strong impact on business in markets worldwide

The world map shows highlighted regions in Europe, Asia, and parts of Africa and South America, indicating the global reach of these regulations.

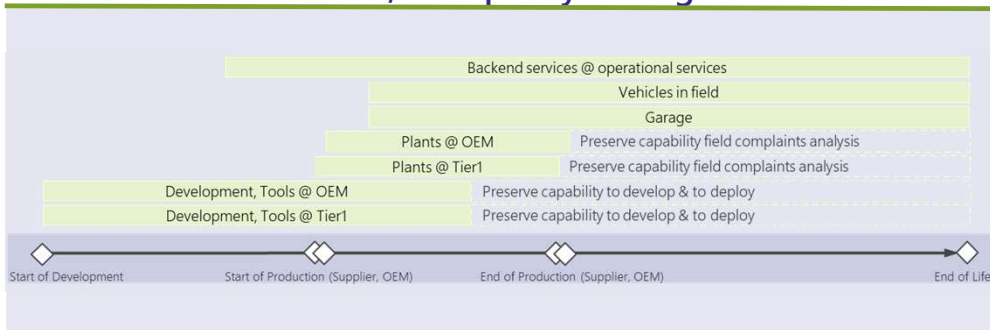
UN R 155 implementation

- 2022: New vehicle types
- 2024: Existing vehicles

Other markets

- UN R 155 potentially applicable according to map
- China and other countries affected by similar requirements

Strong impact on sales, development, production, aftermarket, and quality management.



We measured the impact

- 66 participants including top 5 OEMs and suppliers
- Companies from 10 countries: Belgium, China, France, Germany, India, Japan, Korea, Sweden, United Kingdom, US
- 42 responses per question on average
- Full report available at www.escript.com/en/solutions/proof

48% OEM	52% Supplier	
10% Commercial	32% Passenger	58% Both

Five takeaways

Automotive cyber maturity survey 2021

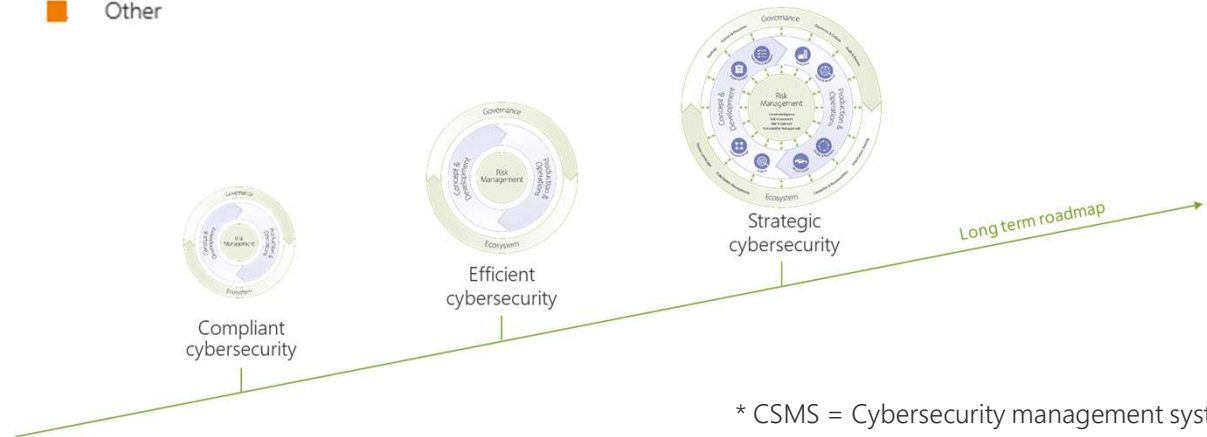
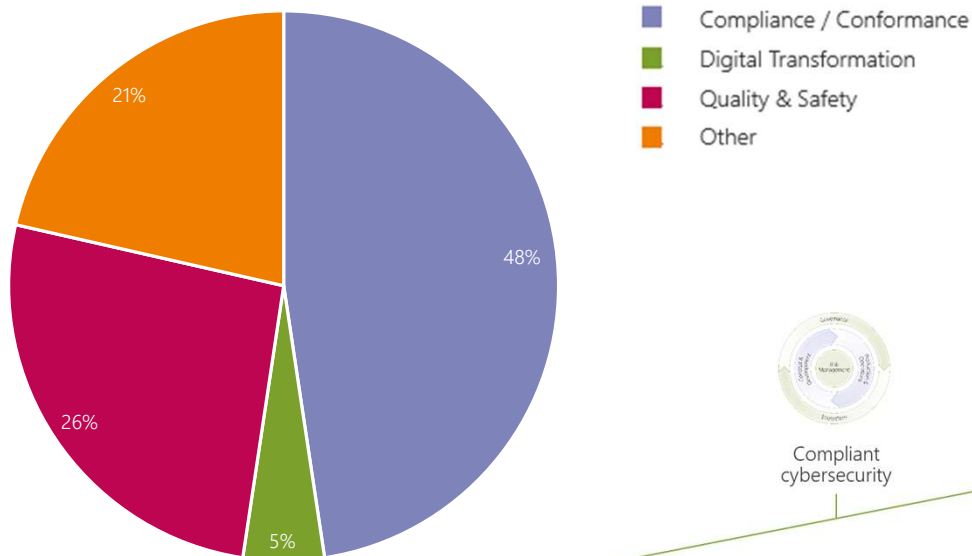
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Takeaway 1: Beyond compliance

What is the main driver of your CSMS* program?

(Single answer)



* CSMS = Cybersecurity management system

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Takeaway 2: Interdisciplinary cybersecurity

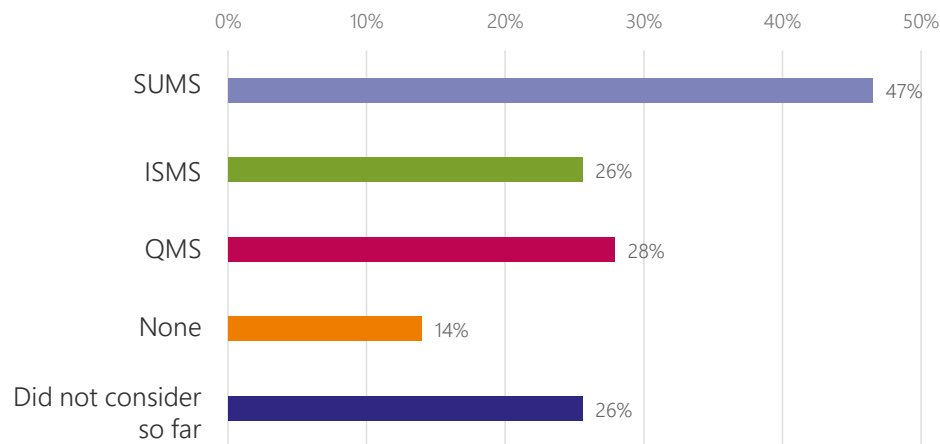


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Automotive cyber maturity survey 2021

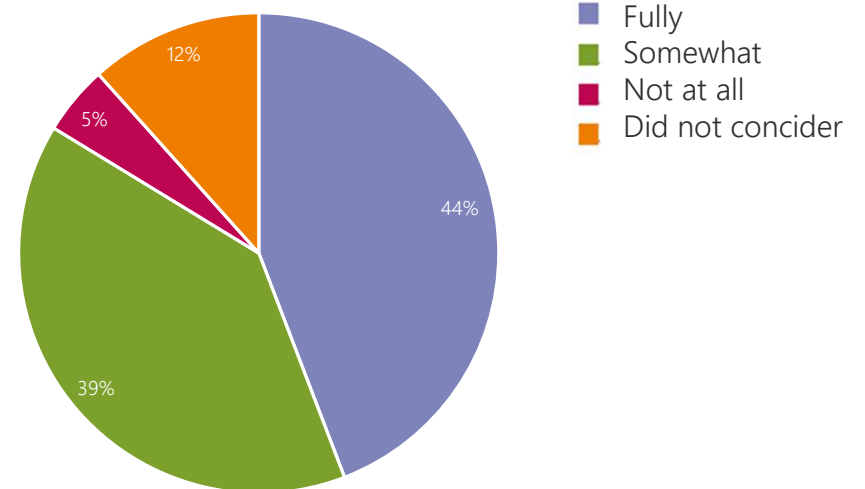
Takeaway 2: Interdisciplinary cybersecurity

Which of the following are you integrating together with your CSMS into one management system?



To what level are you integrating your CSMS into your risk management?

(Single answer)



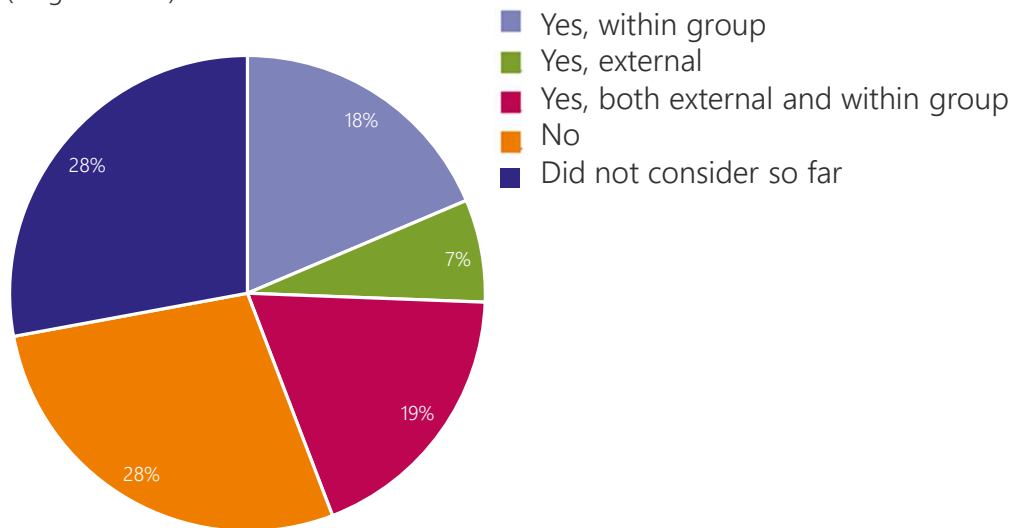
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Takeaway 3: Cooperation & supply chain maturity

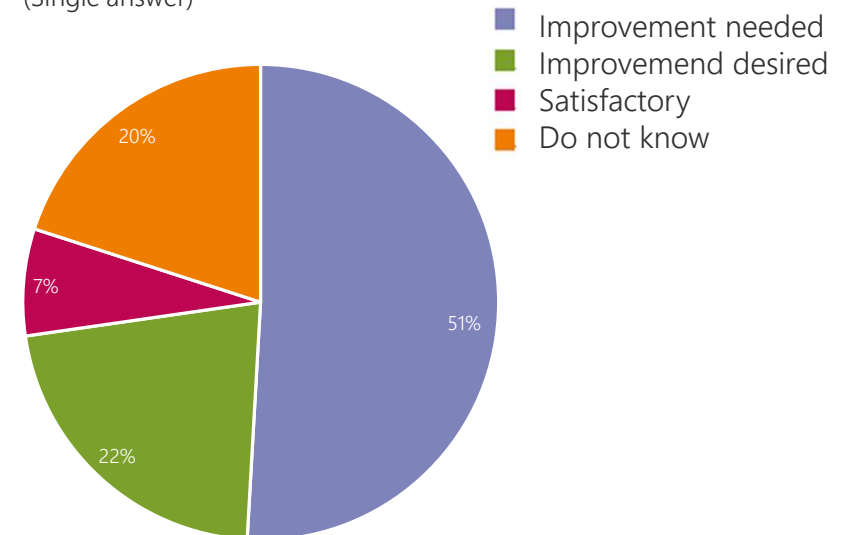
Do you cooperate with other brands or OEMs for your CSMS implementation?

(Single answer)



How do you see the cybersecurity maturity in your supply chain?

(Single answer)



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Takeaway 4: Technological impact of UN R 155

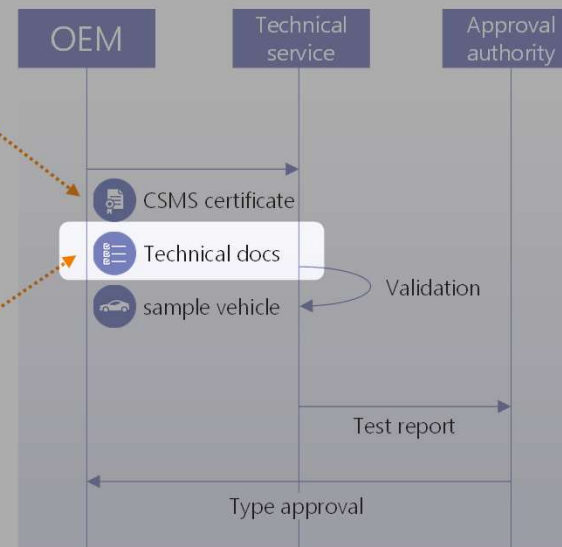
7.2. Cybersecurity Management System

- Processes for
 - Managing cyber security
 - Identifying risks
 - Assessing, categorizing, treating risks
 - Verifying appropriate risk management
 - Testing of security
 - Keeping assessments of risks & of effectiveness of measures up to date
 - Continuous monitoring, analysis, and detection of cyber threats, vulnerabilities, and cyberattacks
 - Responding within reasonable timeframe
- Managing dependencies with suppliers and service providers
- Entire life-cycle (development, production, post-production)
- Target is vehicle type

7.3. Vehicle Type Security

- "Application of CSMS to vehicle type during development"

Vehicle Type Approval (VTA)



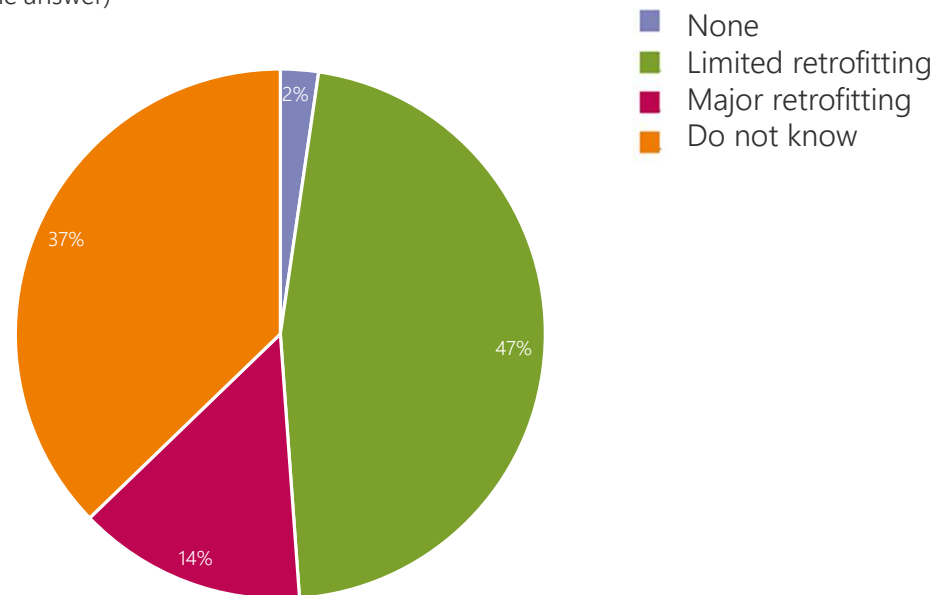
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Takeaway 4: Technological impact of UN R 155

What impact does the 2024 extension of UN R155 have on your existing products (E/E architectures or components)?

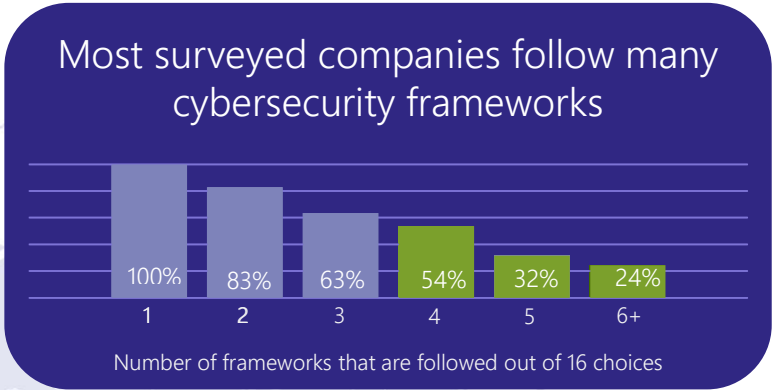
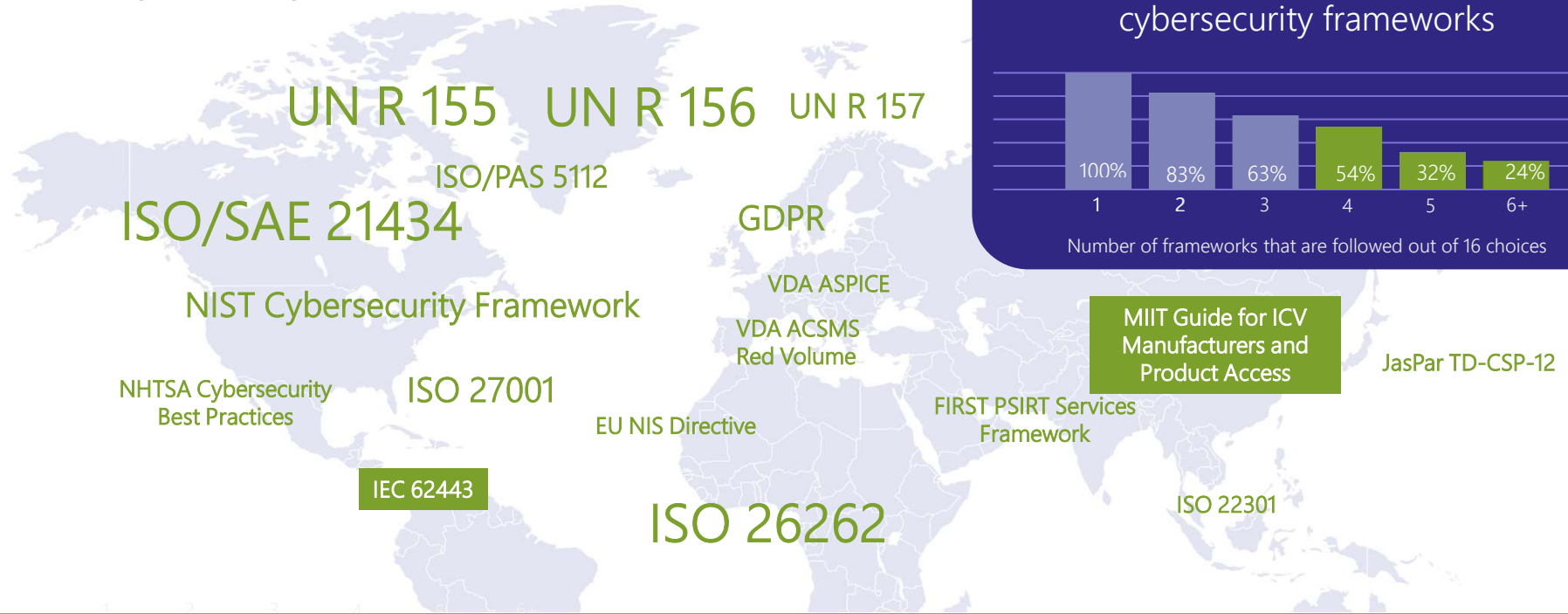
(Single answer)



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Takeaway 5: Beyond UN R 155



Observations

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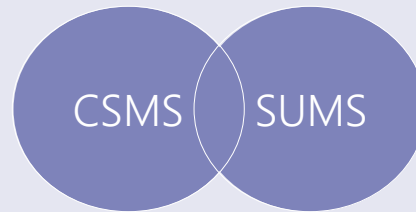
Observation #1: A "typical" project request to reach a certifiable CSMS

2018

Launch year of CSMS implementation program

2022

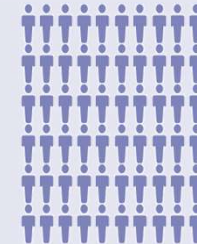
Joint projects



Separate projects

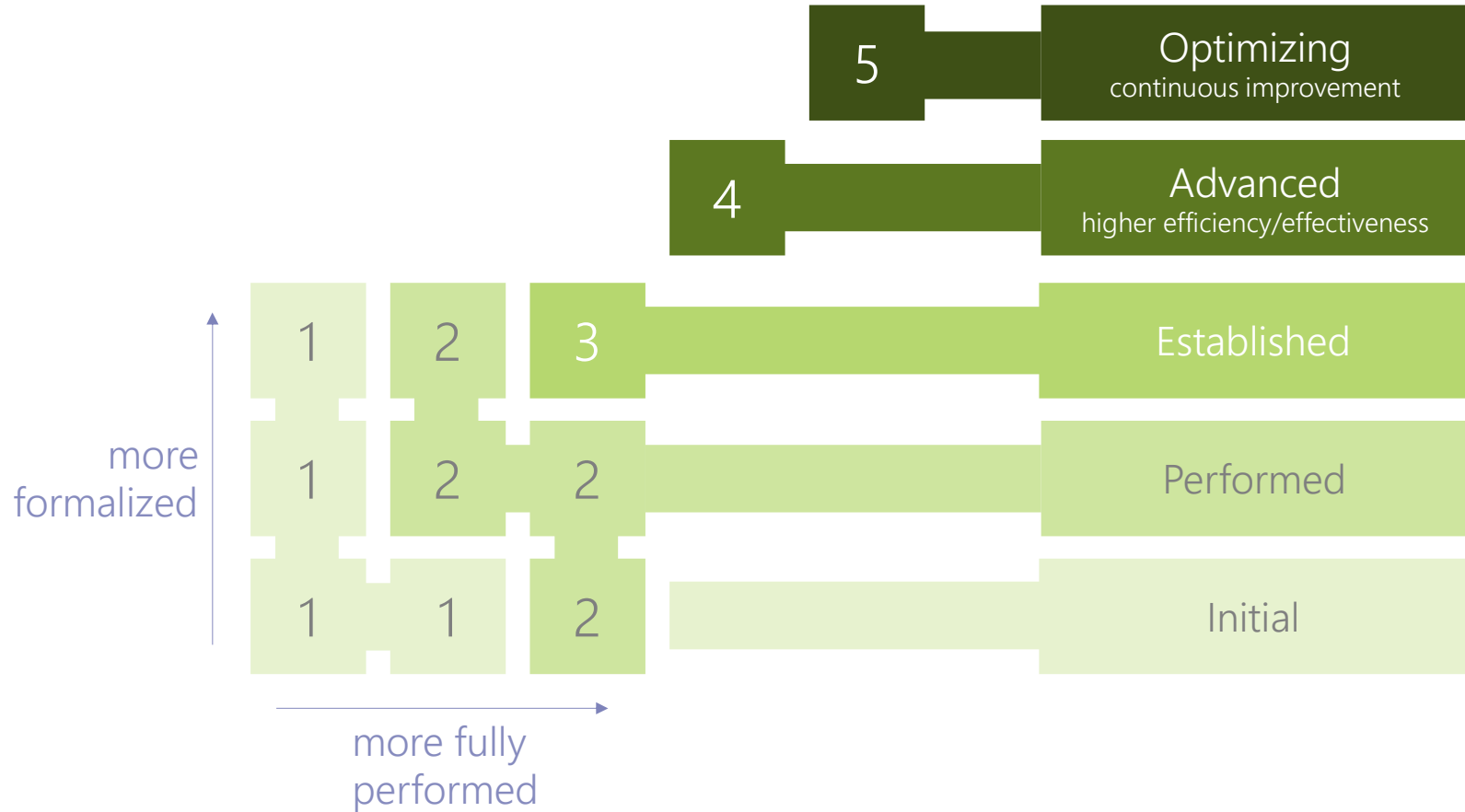


Volume of requested external support



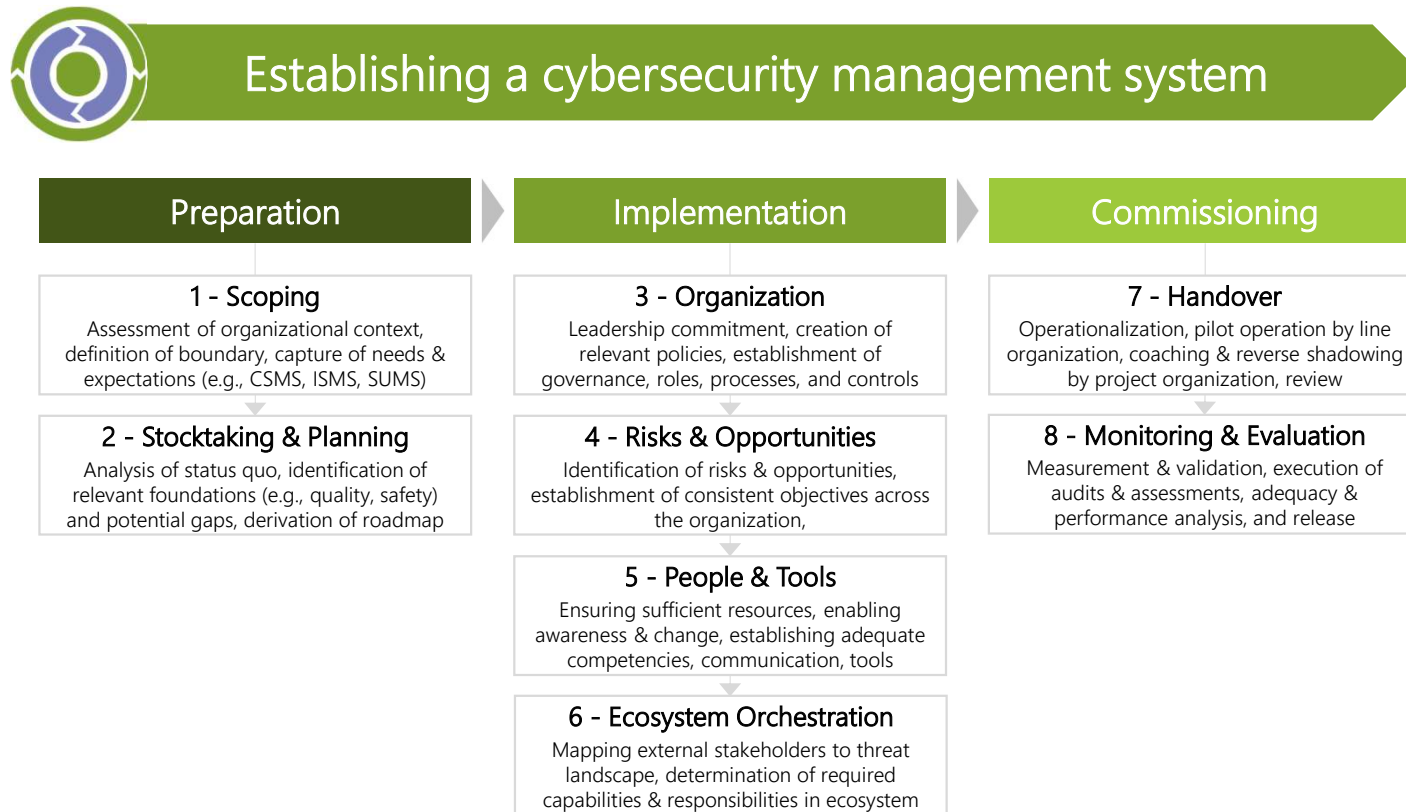
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Observation #2: Automotive companies widely differ in current maturity and targeted maturity



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Observation #3: Eight steps are necessary to successfully establish a cybersecurity management system



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Observation #4: An integrated approach can leverage synergies between regulations and standards



ESCRYPT's maturity model PROOF

Mapped in v2.2	Mapping ongoing	Backlog	
<ul style="list-style-type: none"> MIIT Guide for ICV Manufacturers and Product Access UN R 155 UN R 156 			Regulation/ Legislation
<ul style="list-style-type: none"> ISO/PAS 5112 ISO/SAE 21434 	<ul style="list-style-type: none"> ISO DIS 24089 	<ul style="list-style-type: none"> IEC 62443 ISO 26262 ISO/IEC 27400 GB General technical requirements for software update of vehicle GB Technical requirements for vehicle cybersecurity 	Standards
<ul style="list-style-type: none"> FIRST PSIRT Services Framework v1.1 JasPar TD-CSP-12 v1.10 KBA Anforderungskatalog CSMS/SUMS v1.1 VDA ACSMS Red Volume (1st edition) 	<ul style="list-style-type: none"> NHTSA Cybersecurity Best Practices 	<ul style="list-style-type: none"> VDA Automotive SPICE for Cybersecurity (1st edition) 	Guidelines

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Sample use case of our maturity model



Example for the target maturity profile and actual maturity profile of an organization relative to requirements from standards and regulations.

Thank you

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Establishing a cybersecurity management system

